Arsenic mine tailings and health
Summary

- Dust and soil from mine tailings often contain arsenic, so keep exposure to a minimum.
- Health effects depend on the amount of arsenic taken in by the body over time and the amount of arsenic swallowed.
- Children are more at risk as they can swallow more soil or dust than adults.
- See your doctor if you have any concerns.

Arsenic mine tailings and health

Arsenic is a substance found in the environment. It occurs naturally in crushed rock. It is often found near gold deposits and is extracted as part of gold and other mining activities. The waste left over after mining processes is called mine tailings. Mine tailings often look like fine clay or sand and commonly contain raised levels of arsenic.

Many towns and cities in Victoria have been built in areas with a history of gold mining. Mine tailings that contain arsenic are spread over large areas of land, including land now used for housing.

Health effects of arsenic

Arsenic is a well-known poison, but its effects on health depend on its form and the total amount taken in by the body over time. For instance:

- **Large amounts of arsenic** – taken in over a short time, can cause severe health effects including stomach ache, nausea, vomiting, damage to blood cells and nerves, or even death.
- **Medium amounts of arsenic** – taken in over a longer time, may cause skin changes, damage to major body organs and some types of cancers.
- **Small amounts of arsenic** – can be taken in over long periods of time without any obvious health effects.

Arsenic may be breathed in or swallowed

Small amounts of arsenic are found naturally in soil, air, food and water. It usually enters the body via food and water. Arsenic may be breathed in when it is present in fine dust, but it is not well absorbed through the skin. In areas with mine tailings, you can be exposed to extra arsenic from swallowing and breathing in dust and soil from mine tailings.

Young children are at risk from arsenic in mine tailings

Young children are more at risk than adults from exposure to arsenic in mine tailings. This is because young children can swallow more dust and soil from crawling and putting their fingers or toys in their mouths.

Preventing exposure to arsenic in mine tailings

Children and adults who live near mine tailings are at a higher risk of exposure to arsenic. The risk can be reduced if you:

- Reduce your exposure to mine tailing soil and dust (for example, reduce dust in homes near mine tailings by cleaning frequently).
- Do not allow young children to play in or eat soil from mine tailings.
- Wash young children’s hands and toys frequently.
- Bring in clean soil for vegetable garden beds and ensure all fruit and vegetables are washed thoroughly before eating.
- Do not swim in dams with walls made from mine tailings.

Where to get help

- Your doctor
- Your local council
- Environment Protection Authority Tel. (03) 9695 2722

Things to remember
Dust and soil from mine tailings often contain arsenic, so keep exposure to a minimum. Health effects depend on the amount of arsenic taken in by the body over time and the amount of arsenic swallowed. Children are more at risk as they can swallow more soil or dust than adults. See your doctor if you have any concerns.

References
Environmental health

The following content is displayed as Tabs. Once you have activated a link navigate to the end of the list to view its associated content. The activated link is defined as Active Tab

- Environmental health basics
- House and garden
- Chemical and metal pollutants
- Air and water quality
- Food quality and safety
- Technology and man-made risks
- Bushfires, floods and extreme weather
- Climate change
- Public health and disease control

Environmental health basics

- After a flood – animal and insect related hazards
  When returning to a flood-affected area, remember that wild animals, including rats, mice, snakes or spiders, may be trapped in your home, shed or garden.

- After a flood – returning home safely
  When returning to your home after a flood, take precautions to reduce the possibility of injury, illness or disease.

- Air pollution
  Around 75 per cent of Melbourne’s air pollution is caused by vehicle emissions.

- Allergies explained
  Allergy occurs when the body overreacts to a ‘trigger’ that is harmless to most people.

- Disease clusters
  Disease clusters are rare but can cause community concern about the possible effects of exposure to environmental hazards.

- Emergencies - floods
  You and your family should work out an emergency plan in case of flood.

- Food safety and storage
  High-risk food should be kept at 5°C or below, and above 60°C to avoid the temperature danger zone and food poisoning.

- Hazardous waste
  It can be dangerous to dispose of hazardous wastes through regular rubbish collections.

- Smoke and your health - science summary (video)
- Smoke and your health (video)

House and garden

- Asbestos and your health
  When asbestos fibres become airborne, people working with asbestos may inhale particles which remain in their lungs.

- Asbestos in the home
  Asbestos fibres breathed into the lungs can cause a range of health problems including lung cancer and mesothelioma.

- Bedbugs
Bedbugs have highly developed mouth parts that can pierce skin.

- Edible gardens - saving water
  Saving water in the garden not only saves money, but also helps protect the environment.

- Gardening safety
  Gardening is an enjoyable form of exercise, but you need to take care.

- Gas heating - health and safety issues
  If you service your gas heater regularly and use it correctly, it will be safe and economical to use.

- Greywater - recycling water at home
  When handled properly, greywater can be safely reused for the garden.

- Hazardous waste
  It can be dangerous to dispose of hazardous wastes through regular rubbish collections.

- Mosquitoes - protect your home a checklist
  Use this simple checklist and take action to prevent mosquitoes from entering your home. The best protection from mosquito-borne diseases is to avoid mosquito bites.

- Mould and your health
  The way to control indoor mould growth is to control the source of moisture.

- Passive smoking
  Passive smoking means breathing other people's second-hand tobacco smoke. Passive smoking increases the risk of serious illness in both children and adults.

- Pest control in the home
  If you use pesticides to control pests around the house, make sure you use as little as possible.

- Pest control services
  If you have pest problems that you cannot manage yourself, you may need to hire an authorised pest control operator.

- Sewage overflows at home
  Sewage contains harmful microorganisms such as bacteria, viruses and protozoa.

- Wood fires and breathing problems
  The smoke from wood fires can affect air quality and may affect people's health.

Chemical and metal pollutants

- Hazardous waste
  It can be dangerous to dispose of hazardous wastes through regular rubbish collections.

- Arsenic mine tailings and health
  Mine tailings near goldmines may contain high levels of arsenic.

- Cadmium
  Low-level exposure to cadmium over a long period of time may cause health effects because cadmium can accumulate in the body.

- Chemicals and spray drift
  Sprayed chemicals can drift over neighbouring properties or water sources, and can affect human health, animals or the environment.

- Copper chrome arsenic (CCA) treated timber
  CCA treated timber should not be used to build children's play equipment, patios, new garden furniture, decking or handrails.

- Farm safety and handling agrochemicals
  To reduce risks on the farm, use hazardous chemicals according to manufacturer guidelines or replace them with less dangerous options.

- Lead exposure and your health
  Long-term exposure to low levels of lead may produce symptoms including irritability, lack of energy and loss of appetite.

- Look after your health at harvest time
Farmer health, wellbeing and safety are often neglected when facing the pressures of harvest. Simple safety measures can dramatically reduce the risk of injury and illness.

- Mercury exposure and poisoning
  Preventing or minimising exposure to mercury in your environment is the best way to reduce the risk of mercury poisoning.

- Mercury in fish
  Pregnant women and young children should limit consumption of fish that contain high levels of mercury.

- Pest control in the home
  If you use pesticides to control pests around the house, make sure you use as little as possible.

- Pest control services
  If you have pest problems that you cannot manage yourself, you may need to hire an authorised pest control operator.

Air and water quality

- Air pollution
  Around 75 per cent of Melbourne’s air pollution is caused by vehicle emissions.

- Beaches and water quality
  Water quality of natural water sources, such as beaches and rivers, can vary greatly. Keeping a lookout for poor water quality (such as water that is discoloured, murky or smells unpleasant) will help.

- Cleaning up ash after a fire
  After a fire, many homes may be affected by ash residue from smoke. This ash can be harmful, particularly for children or people with heart or lung conditions. This factsheet has tips and advice for.

- Dental care - fluoride
  Fluoride in your drinking water is like a constant 'repair kit' for your teeth.

- Greywater - recycling water at home
  When handled properly, greywater can be safely reused for the garden.

- Harmful algal blooms
  Some types of blue-green algae produce toxins that can harm humans and animals when swallowed, inhaled or touched. People and pets should not enter the water at locations affected by blue-green algae.

- Healthy swimming (video)
  We can keep our pools safe, healthy, and most importantly fun.

- Legionnaires’ disease
  Legionnaires’ disease is a rare form of pneumonia.

- Look after your health at harvest time
  Farmer health, wellbeing and safety are often neglected when facing the pressures of harvest. Simple safety measures can dramatically reduce the risk of injury and illness.

- Passive smoking
  Passive smoking means breathing other people’s second-hand tobacco smoke. Passive smoking increases the risk of serious illness in both children and adults.

- Smoke and your health - protect your health (video)

- Smoke and your health - science summary (video)

- Swimming - keeping the water clean
  There are simple steps for all visitors to follow to keep pool water clean for healthy swimming.

- Water from natural resources
  Drinking untreated water, such as creek water, bore water and sometimes even rainwater can lead to illnesses including gastroenteritis.

- Water quality in tanks, bores and dams
  Make sure your private drinking water supply is safe.

- Wood fires and breathing problems

betterhealth.vic.gov.au
The smoke from wood fires can affect air quality and may affect people's health.

Food quality and safety

- **Avoid food poisoning - Cook Safe (video)**
  Learn how to prepare and cook food safely at home.

- **Avoid food poisoning - Store Safe (video)**
  Learn how to store food safely in your fridge at home.

- **Eggs**
  The humble egg is a powerhouse of nutritional goodness. Eggs are full of things your body needs. They are a great source of protein, antioxidants, vitamins and minerals (such as vitamin A, vitamin D).

- **Fishing - eat your catch with care**
  People who fish in the Lower Yarra and Maribyrnong rivers need to be careful about eating their catch because of the risk of chemical exposure.

- **Food allergy and intolerance**
  Food allergy is an immune response, while food intolerance is a chemical reaction.

- **Food - pesticides and other chemicals**
  Chemicals such as pesticides, antibiotics and hormones are used to boost food production and ensure adequate food supply.

- **Food poisoning - prevention**
  You can minimise the risk of food poisoning by taking simple precautions.

- **Food safety and storage**
  High-risk food should be kept at 5 °C or below, and above 60 °C to avoid the temperature danger zone and food poisoning.

- **Travel health and safety tips (slideshow)**
  We all love travelling to new and exotic places, but unfortunately illnesses and unforeseen events can ruin the trip of a lifetime. With a little effort, take a few of these simple precautions to make...

Technology and man-made risks

- **Asbestos and your health**
  When asbestos fibres become airborne, people working with asbestos may inhale particles which remain in their lungs.

- **Cancer and asbestos**
  Long-term exposure to asbestos is a cause of lung cancer and other serious illnesses.

- **Electromagnetic fields (EMF) and health issues**
  The effect of electromagnetic fields (EMF) from power lines and other sources is a controversial issue.

- **Legionnaires' disease**
  Legionnaires' disease is a rare form of pneumonia.

Bushfires, floods and extreme weather

- **After a flood – animal and insect related hazards**
  When returning to a flood-affected area, remember that wild animals, including rats, mice, snakes or spiders, may be trapped in your home, shed or garden.

- **After a flood – returning home safely**
  When returning to your home after a flood, take precautions to reduce the possibility of injury, illness or disease.

- **Bushfire aftermath - safety tips**
  Houses, sheds and other buildings or structures burnt in a bushfire can leave potential health hazards.

- **Bushfire preparation advice**
  Being prepared for a bushfire helps you cope better in an emergency.

- **Bushfires and water tanks**
Debris, smoke, ash and dead animals from a bushfire can contaminate water tanks.

- **Bushfire smoke**
  Bushfire smoke can reduce air quality in rural and urban areas, and may affect people’s health.

- **Cleaning up ash after a fire**
  After a fire, many homes may be affected by ash residue from smoke. This ash can be harmful, particularly for children or people with heart or lung conditions. This factsheet has tips and advice for...

- **Emergencies - floods**
  You and your family should work out an emergency plan in case of flood.

- **Extreme heat (video)**
  Extreme heat can affect anyone, including the young and healthy.

- **Heat stress and heat-related illness**
  Heat kills more Australians than any natural disaster. Find out how you can treat and prevent heat-related illness.

- **How to cope and stay safe in extreme heat**
  Know the effects of extreme heat, who is at risk and how you can prepare yourself and others.

- **Mould and your health**
  The way to control indoor mould growth is to control the source of moisture.

- **Sewage overflows at home**
  Sewage contains harmful microorganisms such as bacteria, viruses and protozoa.

- **Smoke from planned burns**
  Bushfire smoke can reduce air quality in rural and urban areas, and may affect people’s health. Planned burns are an important part of reducing the risk of bushfires.

- **Survive the heat**
  How to cope and stay safe in extreme heat.

**Climate change**

- **Beaches and water quality**
  Water quality of natural water sources, such as beaches and rivers, can vary greatly. Keeping a lookout for poor water quality (such as water that is discoloured, murky or smells unpleasant) will help.

- **Climate change and health**
  The effects of climate change will have a serious impact on the physical and mental health of people around the world.

- **Climate change - what you can do**
  There are many things you can do to tackle climate change and live a more sustainable lifestyle.

- **Edible gardens - saving water**
  Saving water in the garden not only saves money, but also helps protect the environment.

- **Urban flash floods - FAQs**
  Urban flash flooding can happen quickly and without warning. Heavy rain causes runoff to collect in ditches, car parks and roads, and there is a risk of contamination, injury and disease.

**Public health and disease control**

- **Disease clusters**
  Disease clusters are rare but can cause community concern about the possible effects of exposure to environmental hazards.

- **Harmful algal blooms**
  Some types of blue-green algae produce toxins that can harm humans and animals when swallowed, inhaled or touched. People and pets should not enter the water at locations affected by blue-green algae.

- **Healthy swimming (video)**

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We can keep our pools safe, healthy, and most importantly fun.

- **Mosquitoes can carry diseases**
  You can reduce the risk of mosquito bites if you get rid of potential mosquito breeding sites around your home.

- **Mosquitoes - mozzie-proof your holiday a checklist**
  Use this simple checklist and take action to prevent mosquitoes from spoiling your holiday. Mosquitoes can carry diseases be prepared and avoid mosquito bites.

- **Mosquitoes - protect your home a checklist**
  Use this simple checklist and take action to prevent mosquitoes from entering your home. The best protection from mosquito-borne diseases is to avoid mosquito bites.

- **Needlestick injury**
  A needlestick injury means the skin is accidentally punctured by a used needle. Diseases that could be transmitted by a needle or needlestick injury include human immunodeficiency virus (HIV).

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**Related Information**

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- **Mercury exposure and poisoning**
  Preventing or minimising exposure to mercury in your environment is the best way to reduce the risk of mercury poisoning...

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**Related information on other websites**

- **Victorian Government - Environmental Health**

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